

# Effects of Environmental Threat on U.S. Defense Contractors in War Zones from the Social Science and Technology Perspectives

**Jeffrey T. Fowler**

*Northcentral University, USA*

**Ruth Sharf**

*Northcentral University, USA*

## INTRODUCTION

During Operation Desert Storm in 1991, the Department of Defense (DOD) utilized approximately 1,000 U.S. and 2,900 foreign contractors (Kidwell, 2005). In the first quarter of 2010, contractors supporting the U.S. Army Central Command (CENTCOM) alone numbered 239,451, including both U.S. and foreign personnel (CENTCOM, 2010). The remarkable increase in contractor numbers has been paralleled by a steep technological and scientific learning curve in a bid to win the Global War on Terror (GWOT).

Environmental threat in combat zones has been a topic of much research in military circles (Leitch, Champion, & Navein, 1997; Johnston, 2003; Yheskel, 1985). In today's business environment, traditional perspectives on business threat have been expanded to include the environmental threat posed by terrorism (Fleming, 2008). Instability in the physical working environment and its potential effects on the physical and mental well-being of small groups have been studied (Jin, Sun, & Myung, 2010; Kamphuis, Gaillard, & Vogelaar, 2011). This article will briefly examine the underpinnings of the defense contracting process and how risk, uncertainty, and environmental threat are related along technological and scientific lines. This will be followed by a review of issues, controversies, and problems, possible solutions, recommendations for further research, and concluding remarks.

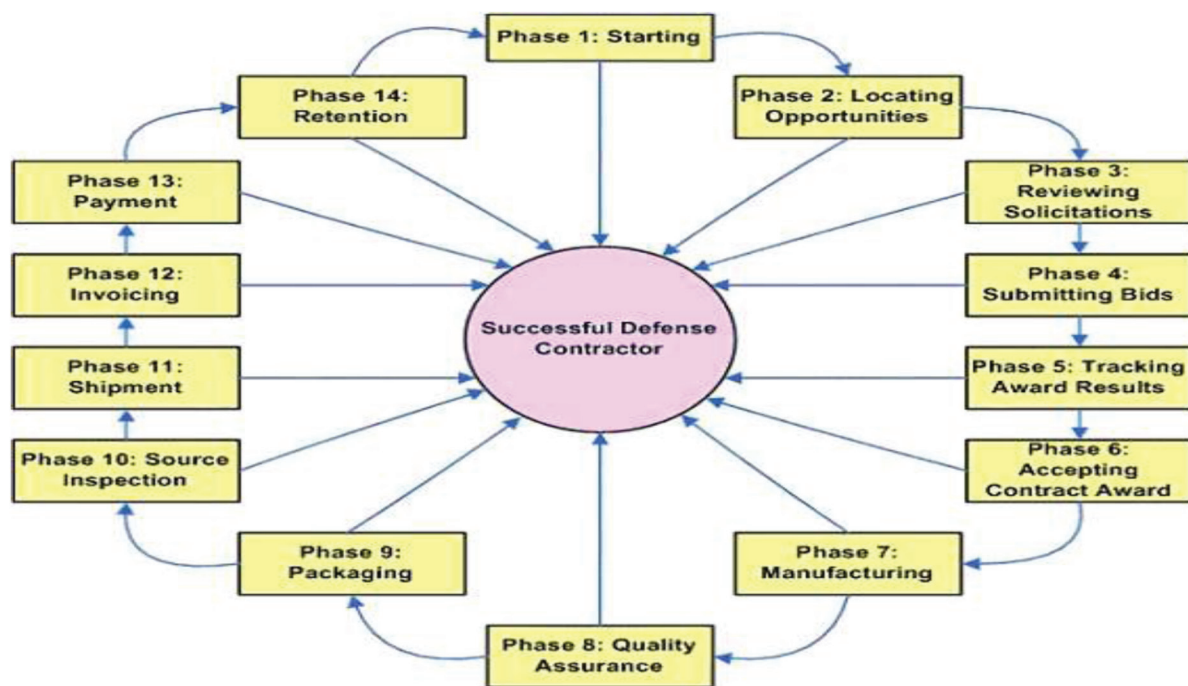
## BACKGROUND

### The Mechanisms of Defense and Contingency Contracting

In 1987, the DOD Logistics Augmentation Program (LOGCAP I) incorporated a historical mandate. The mandate designated a civilian contractor rather than military personnel as responsible to sustain 20,000 troops and to maintain five facilities for a period of 180 days with an option to expand the number of troops and days to 50,000 and 365, respectively (DOD, 2009). The expiration of LOGCAP I initiated a competition for LOGCAP II and LOGCAP III was awarded in 2001. It has been used extensively to provide contractor support for the war on terror. The typical defense contract process is graphically represented in Figure 1.

Much of the defense contracting undertaken since the end of the Cold War fell into the category of contingency contracting (Harrison & Meyers, 2012; Schwartz, 2009, 2010, 2011). Contingency contracting is defined as contracting during catastrophic events, such as disasters; acts of terrorism; catastrophic social, political, or military-related events; or combinations thereof, which require, or may ultimately require, the use of U.S. military force and associated defense contractor goods or services not normally included in the defense budget (D'Angelo, Houglan, & Buckwardt, 2008).

Figure 1. Defense contract process. This figure illustrates factors affecting the success of a defense contractor (DCI Objectives, 2013).



## THE IMPACT OF ENVIRONMENTAL THREAT ON WARTIME CONTRACTING

### Risk, Uncertainty, and Environmental Threat

Contractor levels in Afghanistan by type of contract performed are illustrated in Table 1. The increase in the use of defense contractors resulted in a subsequent increased exposure to environmental threat as it applies to death or serious bodily injury (DCAS-DMDC, 2013).

Defense contractors operating in conflict zones encounter atypical environmental threats (Ortiz, 2010a, 2010b; Schooner & Swan, 2012; Schwartz, 2009, 2010, 2011). These environmental threats may be roughly separated into two broad categories: personal and corporate. This article is concerned with personal threats alone. Personal threats are many and varied. For instance, in the period from September 1, 2001 to June 30, 2012, approximately 44,000 defense contractors were injured or killed as opposed to approximately 40,000 U.S. service members (USDOL,

2012). The idea of contractor casualties reaching parity or exceeding military casualties in a conflict zone is a significant development (Schooner & Swan, 2012; Schwartz, 2009, 2010, 2011).

U.S. contractor fatalities in Iraq from May, 2003 to July, 2011 totaled 1,542 (COWC, 2011; BLS, 2012). Contractor fatalities in Afghanistan from October, 2001 to July, 2011 totaled 887 (COWC, 2011; BLS, 2012). For the period between June, 2009 and March, 2011, contractor fatalities surpassed military fatalities in Iraq and Afghanistan combined. Total contractor injuries were estimated at 58,073 (Schooner & Swan, 2012). An example of the extreme environmental threat faced by defense contractors in Iraq was the 2004 Fallujah incident which resulted in the death and mutilation of four Blackwater International employees (Scahill, 2007). This event and public pressure for action triggered a military assault on the town of Fallujah and further military casualties indicative of the uncertainties encountered in the performance of military contracts and their potential to influence or initiate large-scale social, military, and political effects. Eleven defense firms have suffered over 50 fatalities and six firms

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